

What is claimed is:

1. A soil compactor vehicle, comprising:

a frame;

a loader bucket movably coupled to the frame;

a control system operable to control the loader bucket position relative to the frame;

a plurality of compaction wheels coupled to the frame, the compaction wheels including radially extending compaction studs that have a substantially flat ground contacting surface, the compaction studs being spaced about the periphery of the compaction wheels and defining circumferential grooves on the compaction wheels;

a plurality of wiper bars fixed in relation to the frame and being positioned so as to extend into the circumferential grooves defined on the compaction wheels by the compaction studs; and

an engine operable to drive one or more of the plurality of compaction wheels.

2. The soil compactor vehicle of claim 1, wherein the plurality of compaction wheels comprises two front compaction wheels on opposite sides of the frame and two rear compaction wheels on opposite sides of the frame, the soil compactor vehicle further comprising:

a first mounting bar extending from a first side of the frame, a first set of the plurality of wiper bars being mounted to the first mounting bar such that at least a first subset of the wiper bars mounted to the first mounting bar extend into the circumferential grooves of a first front compaction wheel and such that at least a second subset of the wiper bars mounted to the first mounting bar extend into the circumferential grooves of a first rear compaction wheel; and

a second mounting bar extending from a second side of the frame opposite the first side of the frame, a second set of the plurality of wiper bars being mounted to the second mounting bar such that at least a first subset of the wiper bars mounted to the second mounting bar extend into the circumferential grooves of a second front compaction wheel and such that at least a second subset of the wiper bars mounted to the

second mounting bar extend into the circumferential grooves of a second rear compaction wheel.

3. The soil compactor vehicle of claim 2, wherein at least one of the wiper bars mounted to the first mounting bar extends into a circumferential groove of the first front compaction wheel and into a circumferential groove of the first rear compaction wheel and wherein at least one of the wiper bars mounted to the second mounting bar extends into a circumferential groove of the second front compaction wheel and into a circumferential groove of the second rear compaction wheel.

4. The soil compactor vehicle of claim 2, wherein the first mounting bar extends from an area of the frame between the first front compaction wheel and the first rear compaction wheel and wherein the second mounting bar extends from an area of the frame between the second front compaction wheel and the second rear compaction wheel.

5. The soil compactor vehicle of claim 2, wherein the soil compactor vehicle comprises a skid steering system.

6. The soil compactor vehicle of claim 1, wherein the soil compactor vehicle comprises a skid steering system.

7. A skid steer loader, comprising:

- a frame;
- a loader bucket movably coupled to the frame;
- a control system operable to control the loader bucket position relative to the frame;
- two front compaction wheels coupled to and on opposite sides of the frame and two rear compaction wheels coupled to and on opposite sides of the frame, the two front and two rear compaction wheels including radially extending compaction studs that have a substantially flat ground contacting surface, the compaction studs being spaced about the periphery of the two front and two rear compaction wheels and defining circumferential grooves on the two front and two rear compaction wheels;
- a plurality of wiper bars fixed in relation to the frame and being positioned so as to extend into the circumferential grooves defined on the two front and two rear compaction wheels by the compaction studs;
- an engine operable to drive one or more of the plurality of compaction wheels;
- and
- a skid steering system operable to control the rotation of the two front and two rear compaction wheels to steer the skid steer loader.

8. The skid steer loader of claim 7, further comprising:

- a first mounting bar extending from a first side of the frame, a first set of the plurality of wiper bars being mounted to the first mounting bar such that at least a first subset of the wiper bars mounted to the first mounting bar extend into the circumferential grooves of a first front compaction wheel and such that at least a second subset of the wiper bars mounted to the first mounting bar extend into the circumferential grooves of a first rear compaction wheel; and
- a second mounting bar extending from a second side of the frame opposite the first side of the frame, a second set of the plurality of wiper bars being mounted to the second mounting bar such that at least a first subset of the wiper bars mounted to the second mounting bar extend into the circumferential grooves of a second front compaction wheel and such that at least a second subset of the wiper bars mounted to the

second mounting bar extend into the circumferential grooves of a second rear compaction wheel.

9. The skid steer loader of claim 8, wherein at least one of the wiper bars mounted to the first mounting bar extends into a circumferential groove of the first front compaction wheel and into a circumferential groove of the first rear compaction wheel and wherein at least one of the wiper bars mounted to the second mounting bar extends into a circumferential groove of the second front compaction wheel and into a circumferential groove of the second rear compaction wheel.

10. The skid steer loader of claim 8, wherein the first mounting bar extends from an area of the frame between the first front compaction wheel and the first rear compaction wheel and wherein the second mounting bar extends from an area of the frame between the second front compaction wheel and the second rear compaction wheel.

11. A method of compacting soil utilizing a soil compaction vehicle that includes a loader bucket and that includes at least one compaction wheel including radially extending compaction studs spaced about the periphery of the at least one compaction wheel, the method comprising:

loading material into the loader bucket to increase the total weight of the soil compaction vehicle; and

driving the soil compaction vehicle with the material in the loader bucket such that the at least one compaction wheel rolls over the soil to be compacted.

12. The method of claim 11, wherein loading material into the loader bucket comprises scooping soil into the loader bucket by driving the soil compactor vehicle with the loader bucket scraping the ground.

13. The method of claim 11, wherein driving the soil compaction vehicle such that the at least one compaction wheel rolls over the soil to be compacted comprises repeatedly rolling the at least compaction wheel over the soil to be compacted.

14. The method of claim 11, further comprising adjusting the height of the loader bucket after loading the material into the bucket to alter a weight distribution relative to the at least one compaction wheel.

15. A method of compacting soil utilizing a soil compaction vehicle that includes a loader bucket and that includes at least one compaction wheel including radially extending compaction studs spaced about the periphery of the at least one compaction wheel, the method comprising:

elevating the loader bucket to alter a weight distribution relative to the at least one compaction wheel; and

driving the soil compaction vehicle with the loader bucket elevated such that the at least one compaction wheel rolls over the soil to be compacted.

16. The method of claim 15, further comprising loading material into the bucket prior to elevating the loader bucket to alter the weight distribution.

17. The method of claim 16, wherein loading material into the loader bucket comprises scooping soil into the loader bucket by driving the soil compactor vehicle with the loader bucket scraping the ground.

18. The method of claim 15, wherein driving the soil compaction vehicle such that the at least one compaction wheel rolls over the soil to be compacted comprises repeatedly rolling the at least compaction wheel over the soil to be compacted.

19. The method of claim 15, further comprising upon elevating the loader bucket to alter a weight distribution and after driving the soil compactor vehicle such that the at least one compaction wheel rolls over the soil to be compacted, adjusting a height of the loader bucket to again alter the weight distribution relative to the at least one compaction wheel and then again driving the soil compaction vehicle such that the at least one compaction wheel rolls over the soil to be compacted.